

REMARKS

In the Office Action of June 11, 2010, claims 1, 2, 4 and 7 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over JP-04120900 (“Nonaka”) in view of U.S. Patent No. 4,668,588 (“Kishima”) and JP-01193847 (“Fukazawa et al.”). In addition, claims 6, 8-10 and 20-22 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Nonaka in view of Kishima, U.S. Patent No. 2,716,462 (“Brennan ‘462”), U.S. Patent No. 2,408,038 (“Brennan ‘038”), U.S. Patent No. 3,093,207 (“Bozak”) and/or “Synthesis and properties of UV curable waterborne hyperbranched aliphatic polyester” by Anila Asif and Wenfan Shi (“Asif et al.”).

In response, Applicants have amended the dependent claims 20 and 21. Applicants respectfully assert that the independent claim 1 is not obvious over Nonaka in view of Kishima and Fukazawa et al., as explained below. In view of the following remarks, Applicants respectfully request the allowance of pending claims 1, 2, 4, 6-10 and 20-22.

A. Patentability of Independent Claim 1

The independent claim 1 was rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Nonaka in view of Kishima and Fukazawa et al. However, the Office Action has failed to establish a *prima facie* case of obviousness for claim 1. As such, Applicants respectfully request that the independent claim 1 be allowed.

- i. Office Action has failed to provide *prima facie* support for the obviousness rejection for claim 1 with respect to applying the teachings of Kishima to the teachings of Nonaka.

Applicants respectfully assert that the Office Action has failed to provide *prima facie* support for the obviousness rejection for claim 1 with respect to applying the teachings of Kishima to the teachings of Nonaka.

As the MPEP makes clear, “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that ‘rejections based on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.’ *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).” MPEP §2142.

However, the only statement made by the Examiner in support of an obviousness rejection of claim 1 with respect to applying the teachings of Kishima to the teachings of Nonaka is “it would have been obvious to a person of ordinary skill in the art at the time of the invention to heat the deposited liquid polymer layer for some time before UV curing it in order to remove the solvent from the layer and produce a cured polymer layer with better surface properties,” which is a mere conclusory statement and fails to clearly articulate a rationale in support of the obviousness rejection, as required by the MPEP and *KSR*. The Examiner’s identification of the teachings of Nonaka and Kishima, along with the conclusory statement of “it would have been obvious... in order to remove the solvent from the layer and produce a cured polymer layer with better surface properties” without any rationale in support of that conclusion, does not satisfy the requirements for establishing a *prima facie* case of obviousness.

Assuming (because there is no explicit statement of the Examiner’s rationale in the Office Action) that the Examiner’s rationale is that there is some teaching, suggestion, or motivation that would have led one of ordinary skill to combine the cited references’ teachings to arrive at the claimed invention, MPEP §2143 (G) and the applicable case law require the following:

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
- (2) a finding that there was reasonable expectation of success; and

(3) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

... If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art. (emphasis added).

If the Applicants' assumption of the Examiner's rationale as described above is correct, then Applicants are entitled to have the foregoing required items articulated. If the Examiner's rejection is based on some other rationale, Applicants are entitled to know what that rationale is and to be given an opportunity to respond. If an explanation of the Examiner's rationale is presented in the next Office Action, the next Office Action should not be made final. "The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." MPEP §2142.

In view of the foregoing, Applicants respectfully submit that the Examiner has merely provided a conclusory statement in support of the obviousness rejection and failed to clearly articulate a rationale to support his conclusion, as required by the MPEP and KSR. Because "rejections based on obviousness cannot be sustained by mere conclusory statements," Applicants respectfully assert that the Examiner has failed to provide *prima facie* support for the obviousness rejection of claim 1 with respect to applying the teachings of Kishima to the teachings of Nonaka.

Applicants also note herein that the Office Action has failed to set forth any rational reasoning why the deposited liquid polymer layer, as described in Nonaka, would result in a cured polymer layer with better surface properties when the deposited polymer layer is heated prior to curing, as taught by Kishima. The benefits of the heating process prior to curing on the UV ray setting paint, as disclosed in Kishima, does not mean that the same benefits will be realized for the polyphosphazene resin layer, as described in Nonaka. As such, in any subsequent Office Action, Applicants respectfully request that the Examiner provide an articulated reasoning why this would be the case in support of the legal conclusion of obviousness.

ii. Office Action has failed to provide *prima facie* support for the obviousness rejection for claim 1 with respect to applying the teachings of Jukazawa et al. to the teachings of Nonaka in view of Kishima.

Applicants respectfully assert that the Office Action has failed to provide *prima facie* support for the obviousness rejection for claim 1 with respect to applying the teachings of Jukazawa et al. to the teachings of Nonaka in view of Kishima.

The only statement made by the Examiner in support of an obviousness rejection of claim 1 with respect to applying the teachings of Fukazawa et al. to the teachings of Nonaka in view of Kishima is “it would have been obvious to a person of ordinary skill in the art at the time of the invention to expect that heating the liquid polymer would also produce the benefit of creating a more uniform coating, since it was known that doing so would enable a more uniform coating,” which is a mere conclusory statement and fails to clearly articulate a rationale in support of the obviousness rejection, as required by the MPEP and *KSR*. The Examiner’s identification of the teachings of Fukazawa, Nonaka and Kishima, along with the conclusory statement of “it would have been obvious... to expect that heating the liquid polymer would also produce the benefit of creating a more uniform coating, since it was known that doing so would enable a more uniform coating” without any rationale in support of that conclusion, does not satisfy the requirements for establishing a *prima facie* case of obviousness.

Assuming (because there is no explicit statement of the Examiner’s rationale in the Office Action) that the Examiner’s rationale is that applying a known technique to a known device (method or product) ready for improvement to yield predictable results is obvious, MPEP §2143 (D) and the applicable case law require the following:

To reject a claim based on this rationale, Office personnel must resolve the *Graham* factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that the prior art contained a "base" device (method, or product) upon which the claimed invention can be seen as an "improvement;"
- (2) a finding that the prior art contained a known technique that is applicable to the base device (method, or product);
- (3) a finding that one of ordinary skill in the art would have recognized that applying the known technique would have yielded predictable results and resulted in an improved system; and

(4) whatever additional findings based on the *Graham* factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

... If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art. (emphasis added).

If the Applicants' assumption of the Examiner's rationale as described above is correct, then Applicants are entitled to have the foregoing required items articulated. If the Examiner's rejection is based on some other rationale, Applicants are entitled to know what that rationale is and to be given an opportunity to respond. If an explanation of the Examiner's rationale is presented in the next Office Action, the next Office Action should not be made final. "The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." MPEP §2142.

In view of the foregoing, Applicants respectfully submit that the Examiner has merely provided a conclusory statement in support of the obviousness rejection and failed to clearly articulate a rationale to support his conclusion, as required by the MPEP and *KSR*. Because "rejections based on obviousness cannot be sustained by mere conclusory statements," Applicants respectfully assert that the Examiner has failed to provide *prima facie* support for the obviousness rejection of claim 1 with respect to applying the teachings of Fukazawa et al. to the teachings of Nonaka in view of Kishima.

Applicants also note herein that the Office Action has failed to set forth any rational reasoning why uniform coating is an issue for the diaphragm of Nonaka. As explained in the 2010 *KSR* Guideline Update, "the claimed invention may nevertheless be nonobvious when the combining step involves such additional effort that no one of ordinary skill would have undertaken it without a recognized reason to do so." As such, in any subsequent Office Action, Applicants respectfully request that the Examiner provide an articulated reasoning why one of ordinary skill in the art would have recognized the problem of uniform coating for the diaphragm of Nonaka.

In conclusion, Applicants respectfully assert that the Examiner has failed to provide *prima facie* support for the obviousness rejection for claim 1 with respect to applying the teachings of Kishima to the teachings of Nonaka and with respect to applying the teachings of Fukazawa et al. to the teachings of Nonaka in view of Kishima. As a result, Applicants respectfully assert that the Examiner has failed to establish a *prima facie* case of obviousness for claim 1. As such, Applicants respectfully request that the independent claim 1 be allowed.

B. Patentability of Dependent Claims 2, 4, 6-10 and 20-22

Each of the dependent claims 2, 4, 6-10 and 20-22 depends on the independent claim 1. As such, these dependent claims include all the limitations of the independent claim 1. Therefore, Applicants submit that these dependent claims are allowable for the same reasons as the amended independent claim 1. Furthermore, these dependent claims may be allowable for additional reasons.

As an example, the dependent claim 20 recites “*wherein the part-areas include a central area and a creased area of the at least one surface of the membrane, the creased area being situated to surround the central area so that the creased area is situated between the central area and an edge area that surrounds the creased area, the creased area including a plurality of raised areas and depressions that are configured so that each of the raised areas and the depressions extends from the edge area to the central area, wherein different amounts of liquid plastic per unit time or per unit area are sprayed to the central area and the creased area of the at least one surface of the membrane such that the central area is sprayed with a first amount of liquid plastic and the creased area is sprayed with a second amount of liquid plastic*” (emphasis added), which are not disclosed in the cited references. Thus, the dependent claim 20 is not obvious in view of the cited references.

As another example, the dependent claim 21 recites “*wherein the part-areas include a central area and a creased area of the at least one surface of the membrane, the creased area being situated to surround the central area so that the creased area is situated between the central area and an edge area that surrounds the creased area, the creased area including a plurality of raised areas and depressions that are*

configured so that each of the raised areas and the depressions extends from the edge area to the central area, wherein different types of liquid plastic are sprayed to the central area and the creased area of the at least one surface of the membrane such that the central area is sprayed with a first type of liquid plastic and the creased area is sprayed with a second type of liquid plastic” (emphasis added), which are not disclosed in the cited references. Thus, the dependent claim 21 is not obvious in view of the cited references.

Applicants respectfully request reconsideration of the claims in view of the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted on behalf of:

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